

MEDICINE TODAY

Current comment on medical progress, discussion of selected topics from recent books or periodic literature, by contributing members.

Neurosurgery

Gliomas—Of the intracranial tumors gliomas represent between 40 and 50 per cent. Their frequency, infiltrating character and often rapid course have made them most feared. Frequently, however, cystic changes are found in which a small portion of solid glioma is associated with thick yellow highly albuminous fluid. These have been welcome findings, as clinical improvement is generally prompt, often striking, and long leases of life are frequent. Cerebellar tumors are relatively more frequent in children than in adults and in them cystic change is particularly common. In other gliomas the degree of malignancy as attested by rate of growth and infiltration of tissue varies during the life of the tumor. We have seen a large cyst completely filled and obliterated in six weeks by solid glioma. Certain other gliomas which show calcifications are relatively benign, run a course of years and retain fairly definite limitation of the growth. Removal of these may give freedom from symptoms and apparent cure for years before recurrence takes place.

Bailey of Cushing's Clinic using the methods of the Spanish school of neurohistologists—Cajal and del Rio-Hortega—has by means of their special staining reactions undertaken to arrange a classification of gliomas. He has submitted a classification of gliomas comprising twenty types on the basis of their histogenesis.

In "Tumors of the Glioma Group by Bailey and Cushing" the authors present their classification and give their observations of the clinical course of patients having these different cell types of tumors.

As elsewhere in the body the tumors which reproduce the more highly differentiated cells grow less actively and are relatively benign. Radical removal of these is well repaid.

Three of the classified groups, viz., the oligodendrogliomas and the protoplasmic and fibrillary astrocytomas comprise about 40 per cent of the gliomas. All of these are relatively benign and thus warrant radical removal.

Predictions of certain types of glioma under some conditions may be made with some degree of accuracy. In our own experience the midline cerebellar tumors springing from the region of the roof of the fourth ventricle and occurring in children often gave vomiting as a first and only symptom over a considerable period of time, even many months, before other localizing signs or general pressure signs appear. In the classification of these authors these prove to be the medullo blastomas which, from a limited observation, seem to

be more favorably influenced by x-ray than are many other types.

Familiarity of the surgeon with the gross and microscopic appearance of glioma types should serve in the future as a guide to the type of operative treatment required in this large group.

HOWARD C. NAFFZIGER,
San Francisco.

Tuberculosis

Mechanics of Respiration—Dr. Willia S. Lemon, Chief of the Department of Diseases of the Lungs at the Mayo Clinic, reported a very interesting "Experimental Study in the Mechanics of Respiration, Including the Diaphragm and Its Importance in Respiration." The work was done on dogs.

Exeresis of one phrenic nerve was performed. Radiographic examination following this showed that the diaphragm on that side was paralyzed, though it was not possible to demonstrate any changes by physical examination. The dogs' behavior and respiration were to all appearances normal. When exercised with normal dogs (running uphill), they breathed no more rapidly or laboriously at the top of the hill than the controls.

A similar operation was then done on the other side, resulting in paralysis of both domes of the diaphragm, and still the animals behaved and breathed normally while quiet, and after exercise exhibited no respiratory embarrassment or lack of endurance.

On other animals the lower intercostal nerves on one side were sectioned as close to the spine as possible. This resulted in paralysis of the corresponding intercostal muscles and the upper muscles of the abdomen, which became quite flaccid. These animals showed no change from the normal in their behavior or breathing either at rest or after exercising.

The lower intercostals on the other side were then sectioned in a similar manner without apparent ill effect.

Section of all the intercostal nerves on one side was also without any demonstrable effect on the dogs' respiration.

All the intercostal nerves on the other side were then treated similarly, and still no bad effects could be detected.

In addition to all the intercostal nerves, first one and then the other phrenic nerve was divided, and the animals continued to live and exercise with little or no impairment of the respiratory function. In cutting the intercostal nerves it was impossible to get the complete nerve, and the mus-